UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,938	02/14/2002	Steven L. Seed	2711-0040	5330

42624   7590   04/29/2008
DAVIDSON BERQUIST JACKSON & GOWDEY LLP
4300 WILSON BLVD., 7TH FLOOR
ARLINGTON, VA 22203

EXAMINER
BILGRAMI, ASGHAR H

ART UNIT	PAPER NUMBER
2143	

MAIL DATE	DELIVERY MODE
04/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 March 2008</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-65</u> is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-65</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>14 February 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

3/26/2008 has been entered.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

3.   Claims 23, and 38 are rejected under 35 U.S.C. 101 because they are directed

towards a computer program code I.E software that is not embodied on a computer

readable storage medium and is therefore directed to non-statutory subject matter.

Appropriate amendment in light of the disclosed specification is required to overcome

the rejection.

4.   Dependent claims 24-37 and 39-44 are rejected under 35 U.S.C. 101 by virtue of

their dependence on claims 23 & 38.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Jungck (U.S. Pub. No. 2005/0021863) and Sim (U.S. Pub. No. 2003/0031176).

7.   As per claims 1, 16, 23, 38, 45 & 59 Jungck disclosed a system for managed

object replication and delivery, comprising: a plurality of edge servers in a network; and

a plurality of parent servers in the network (paragraphs.19), wherein at least one of the

plurality of edge servers and the plurality of parent servers (paragraph.25): direct a

request by a client for an object to an optimal edge server in the network (paragraphs.

27, 35 & 63), if the optimal edge server has the requested object, then serve the

requested object to the client from the optimal edge server (paragraph.56), otherwise if

the optimal edge server does not have the requested object, redirect the client request

to another parent server and serve the requested object to the client from the parent

server (paragraph.57). However Jungck did not explicitly disclose if the requested object

is popular, replicate the requested object to the edge server from the parent server.

In the same field of endeavor Sim disclosed that if the requested object is popular,

replicate the requested object to the edge server (paragraphs. 47 & 52).

It would have been obvious to one in the ordinary skill in the art at the time the invention was made to have incorporated to replicate an object at the edge server based on its popularity as disclosed by Sim3 in a method for managed object replication and delivery as disclosed by Jungck in order to make the delivery system more scalable resulting in lower traffic load on the network and providing most relevant & popular content to the requester more quickly making the system more robust and efficient.

8.   As per claims 2, 24 & 46 Jungck-Sim disclosed the method of claim 1, wherein redirecting the client request to another server comprises said edge server redirecting the client request to a parent server in the network and serving the requested object to the client from the parent server (Jungck, paragraph.57).

9.   As per claims 3, 25 & 47 Jungck-Sim disclosed the method of claim 1, wherein redirecting the client request to another server comprises said edge server redirecting the client request to a parent server in the network that does not have the requested object, recursively redirecting the request until a parent server in the network having the requested object is reached, and then serving the requested object to the client from the parent server that has the requested object (Jungck, paragraph.57).

10.   As per claims 4, 26 & 48 Jungck-Sim disclosed the method of claim 1, wherein redirecting the client request to a server comprises redirecting the client request to an origin server if the requested object is not available at a parent server in the network

and serving the requested object to the client from the origin server (Jungck,
paragraph.57).

11.   As per claims 5, 27 & 49 Jungck-Sim disclosed the method of claim 1, wherein
directing a request by a client for an object to an edge server comprises directing a
request by a client for an object to a best or optimal edge server (Jungck,
paragraph.63).

12.   As per claims 6, 28 & 50 Jungck-Sim disclosed the method of claim 5, wherein a
best or optimal edge server comprises an edge server selected using at least one of a
determination based on a best repeater selector, the likelihood of a copy of the
requested object being available at the edge server, and the bandwidth between the
edge server and the client (Jungck, paragraphs.63 & 71).

13.   As per claims 7, 29 & 51 Jungck-Sim disclosed the method of claim 1, wherein
replicating the requested object to the edge server comprises replicating the requested
object to the edge server from a parent server (Sim, paragraphs, 47 & 52).

14.   As per claims 8, 9, 30, 31, 52, 53 & 65 Jungck-Sim disclosed the system of claim
59, wherein at least one of the plurality of edge servers and the plurality of parent
servers further replicate the requested object from an origin server if the requested

object is popular and the requested object is unavailable on pares servers in the
network (Sim, paragraphs, 47 & 52).

15.   As per claims 10, 21, 32, 43, 54 & 63 Jungck-Sim disclosed the method of claim
1, wherein whether the requested object is popular is determined using at least a
request rate for the requested object (Jungck, paragraph.58).

16.   As per claims 11, 12, 17, 18, 33, 34, 39, 40, 55 & 60 Jungck-Sim disclosed the
system of claim 45, wherein at least one of the plurality of edge servers and the plurality
of parent servers further delete an object if the object is no longer popular (Sim,
paragraph, 230).

17.   As per claims 13, 19, 35, 41, 56 & 61 Jungck-Sim disclosed the method of claim
1, wherein replicating the requested object comprises replicating the requested object in
accordance with a dynamic replication threshold (Sim, paragraph, 230).

18.   As per claims 14, 20, 36, 42, 57 & 62 Jungck-Sim disclosed the method of claim
1, wherein replicating the requested object comprises: replicating the requested object
when a popularity of the requested object is great than a threshold popularity and there
is enough storage to replicate the requested object; otherwise, if there is not enough
storage to replicate the requested object, i) comparing the popularity of the requested
object against a popularity of a least popular object in the storage, ii) if the popularity of

the requested object exceeds the popularity of the least popular object in the storage,

deleting the least popular object from the storage, iii) repeating i) and ii) until enough

storage is available for the requested object or the popularity of the requested object is

less than the popularity of the least popular object in the storage, and iv) replicating the

requested object if there is enough storage (Sim, paragraph, 230).

19.   As per claims 15, 22, 37, 44, 58 & 64 Jungck-Sim disclosed the method of claim

1, wherein serving the requested object is performed separately from replicating the

requested object (Jungck, paragraphs.63 & 71).

Response to Arguments

20.   Applicant's arguments filed March 26, 2008 have been fully considered but they

are not persuasive.

21.   Applicant argued that Jungck performs on-demand replication, regardless of

popularity.

As to applicant's argument the Examiner has cited Sim for the "replication" limitation in

the 103 rejection above not Jungck. Additionally, one cannot show nonobviousness by

attacking references individually where the rejections are based on combinations of

references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck &*
Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

22.   Applicant agued that Jungck's cache servers are not the same as edge servers.

As to applicant's argument Jungck's cache server are in fact the edge servers.
Examiner suggests applicant to carefully examine paragraphs.28, 33 and figure 1 which
clearly explains that cache servers are edge servers.

Finally with respect to applicants argument first the examiner would like to clarify the
fact that a sever can be an edge sever or a cache server). Having a server at the
networks edge (edge server) does not change the nature of the server itself, its purpose
is to serve the data that is being requested from it (please read paragraph 56 on page 7
of Jungck). Jungck clearly discloses that when a content request is not in the cache
server the cache server forwards (redirects) the to the content source (I.E. origin server)
which serves the content to the requester (please read paragraph 57 on pages 7 & 8).

23.   Applicant argued that Sim does not disclose replication of object to the edge
server if the object is popular.

As to applicant's arguments examiner would advice the applicant to read paragraphs 19, 20, 47 & 52 of Sim which explains the replication of most sought after (popular) content (object) into the edge server.

24.   Applicant argues that no proposed combination of Jungck and Sim would produce the presently claim invention.

Examiner respectfully points applicant to read the rejection made on line 3 of this office action, which clearly disclose how these two references can be combined to show the applicant's claimed invention.

25.   Examiner again advises the applicant to narrow the claim language in light of the disclosed specification because the current claim language is extremely broad which describes a concept that is **not novel** and has been widely used in a client-server environment for many years. Finally if applicant still disagrees with examiner's rejection, applicant has the option to file Appeal brief before the BPAI in accordance with rules stipulated by the MPEP.

Conclusion

        Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASGHAR BILGRAMI whose telephone number is (571)272-3907. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. B./
Examiner, Art Unit 2143

/Nathan J. Flynn/
Supervisory Patent Examiner, Art Unit 2154